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PATENT



SPECIFICATION

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COMPLETE SPECIFICATION.

Operating Eye Speculum for Surgical use.

I, PUNDIT HARI SHANKER, L.M.S., Rai Bahadur, Assistant Surgeon, Eye Department, Civil Hospital, Delhi (Government Service), British India, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to an eye speculum for surgical use and is illustrated in the accompanying drawings in which Figure 1 shows the instrument in elevation with its parts assembled in operative position, Figure 2 is a view of same in perspective, Figure 3 shows in elevation a modification, while Figures 4 to 9 inclusive are detail views illustrating various forms of hooks for engagement with the eyelids.

The instrument comprises:

1. Two members A and B which serve as rests. One bears on the inner side of the inner canthus and the other on the outer side of the outer canthus.
2. Two arch-pieces fixed on and connecting the rests A and B. These are for the upper and lower eyelids and are denoted by the letters C and D respectively. The upper arch C is larger than the lower one D, and the latter is formed with a hook E which is to be applied between the lower eyelid and the eyeball to retract the eyelid. The arch C is formed with a U-shaped or forked projecting portion F to form a bearing or support for the upper eyelid elevator.
3. A hook member G for lifting the upper eyelid, formed with a handle H which is serrated or notched on each side as at H¹. Said hook G is a separate member and is held on the arch C, when in use, by inserting same between the projecting branches of the forked portion F with its teeth H¹ resting upon said projecting branches.

In operation, the two members A and B of the instrument are suitably positioned over the eye of the patient with the lower hook E inserted between the lower eyelid and the eyeball. The hook member G, held by its handle H, is then passed between the upper eyelid and the eyeball and the eyelid is raised to the required extent. The handle H is then held in position by placing it between the branches of the forked projection F of the arch C with two of its teeth H¹ resting on said projecting branches; see Figures 1 and 2.

The eye is then ready for operation.

After the operation, the handle H is withdrawn from its support and pressed downwards towards the lower eyelid and the upper eyelid is thus liberated. The hook E is then withdrawn from the lower eyelid and the instrument is removed.

In the modification shewn in Figure 3, a graduated lift for the upper eyelid is provided and the instrument is formed in two parts hinged together.

40 In this figure, the hook a for lifting the upper eyelid is shewn as being

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formed integral with, or it may be attached to, two side arms *b* which are slidably mounted in bored lugs or bearings *c* formed on the upper arch piece *d* of the instrument, and connected at their free ends to a screw-threaded nut *e* in which works a screw *f* taking a thrust against the arch *d* and formed with a head *f'* by which it may be easily rotated.

By turning the screw *f* the hook *a* can be made to descend or ascend and thus can be easily inserted and removed.

The lower hook *g* is carried on the arch *h*, which latter is hingedly connected, as at *i* to the arch *d*. In this modification the arches *d* and *h* serve as, and take the place of, the rest members *A* and *B* above described with reference to Figures 1 and 2.

The hooks, either for the upper or lower eyelids, instead of being formed as blunt double hooks as shewn in Figures 1, 2 and 3, may take the form of a pair of hooks (blunt or pointed) as shewn at *j*, Figures 4 and 5; or they may take the form of single hooks as *k* in Figures 6, 7 and 8.

If the external palpebral ligament be divided subconjunctively and subcutaneously or by the open method from the conjunctival side as a step preliminary to operation on the eyeball, pressure may sometimes be required to stop bleeding from the cut surface. A small spring hook can be attached to the "rest" on the outer side. This can be made revolving if the rest carrying the hook be made round. The spring hook can be rotated so as to hook on the outer canthus or be put out of action. A piece of cotton wool placed between the outer canthus and the spring hook will stop the bleeding. Such a hook may be provided on either side or on one side only; see *l, l* (Figure 9), in which figure it is shewn as applied on both sides. It can also be kept separate and applied to the speculum on the side on which its action is required at the time of operation.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

The combination and arrangement of parts of the aforesaid surgical eye speculum, substantially as shewn and described.

Dated this 11th day of May, 1917.

A. M. & WM. CLARK,
Agents for Applicant.

[This Drawing is a reproduction of the Original on a reduced scale.]

